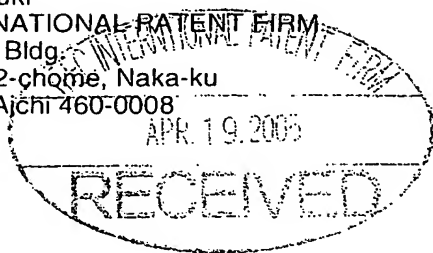


PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

IGAMI, Hiroyuki
ITEC INTERNATIONAL PATENT FIRM
Pola-Nagoya Bldg.
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PCT

WRITTEN OPINION OF THE
INTERNATIONAL PRELIMINARY
EXAMINING AUTHORITY

(PCT Rule 66)

Date of mailing
(day/month/year)

13.04.2005

Applicant's or agent's file reference
FNTYA026WO

REPLY DUE

within 2 month(s)
from the above date of mailing

International application No.
PCT/JP2004/011184

International filing date (day/month/year)
26.07.2004

Priority date (day/month/year)
30.07.2003

International Patent Classification (IPC) or both national classification and IPC
B60K28/16, B60L3/10, B60K6/04

Applicant

TOYOTA JIDOSHA KABUSHIKI KAISHA et al.

1. ☒ The written opinion established by the International Searching Authority:
☒ is ☐ is not
considered to be a written opinion of the International Preliminary Examining Authority
2. This second report contains indications relating to the following items:
 - ☒ Box No. I Basis of the opinion
 - ☐ Box No. II Priority
 - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Box No. IV Lack of unity of invention
 - ☒ Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Box No. VI Certain documents cited
 - ☐ Box No. VII Certain defects in the international application
 - ☐ Box No. VIII Certain observations on the international application
3. The applicant is hereby **invited to reply** to this opinion.

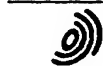
When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(e).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis. For an informal communication with the examiner, see Rule 66.6. For an additional opportunity to submit amendments, see Rule 66.4.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary report on patentability (Chapter II of the PCT) must be established according to Rule 69.2 is: 30.11.2005

Name and mailing address of the international preliminary examining authority:



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**WRITTEN OPINION OF THE INTERNATIONAL
PRELIMINARY EXAMINING AUTHORITY**

International application No.
PCT/JP2004/011184

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This opinion is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this opinion is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed")*:

Description, Pages

1-32 as originally filed

Claims, Numbers

1-10 as originally filed

Drawings, Sheets

1/15-15/15 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

**WRITTEN OPINION OF THE INTERNATIONAL
PRELIMINARY EXAMINING AUTHORITY**

International application No.
PCT/JP2004/011184

**Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	4,5,7-9
	No: Claims	1-3,6,10
Inventive step (IS)	Yes: Claims	4,5,7-9
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations:

see separate sheet

Re Item V.

- 1 The following documents are referred to in this communication:
D1 : EP 1 147 937 A (TOYOTA MOTOR CO LTD) 24 October 2001 (2001-10-24)
D2 : US 5 492 192 A (BROOKS LORAN D ET AL) 20 February 1996
D3 : EP 0 823 348 A (DELCO ELECTRONICS CORP) 11 February 1998
D4 : US 5 788 005 A (ARAI KENTAROU) 4 August 1998 (1998-08-04)

2 INDEPENDENT CLAIM 1.

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The applicant accepts that the features A2 and A3 are disclosed in D1. Therefore in the following only the features A1 and A4 will be discussed in details.

To A1: The examiner is of the opinion that the drive circuit 191, 192 represents implicitly a voltage converter, since the direct current of the battery 194 is converted into alternate current to drive the motor MG2. As disclosed on page 4 paragraph 0016, the transistors are switching elements for each phase. Thus a transformation of voltage from DC into AC is carried on in the inverter 192 in the same way as in the application.

To A4: The claim is very unclear and is interpreted as follows. After detection of slip the torque is reduced and after increased to a preset torque to start the cancelation of torque reduction. This preset torque is set in response to the convergence of slip.

The prior art D1 anticipates this feature since it gives a curve of torque versus slip which is accepted to be represented by the angular acceleration. If the angular acceleration is reduced and hence if the slip converges, the torque is increased again to the Tmax value (fig. 7A).

3 INDEPENDENT CLAIM 10

Similarly for the same reasons, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 10 is not new in the sense of

Article 33(2) PCT.

4 DEPENDENT CLAIMS 2, 3, 6

Dependent claims 2, 3, 6 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

The features of claims are disclosed in D1.

5 DEPENDENT CLAIM 4 or 8

The combination of the features of dependent claim 4 or 8 is neither known from, nor rendered obvious by, the available prior art.